

REMARKS

Applicants remarks regarding the outstanding rejections are set forth below.

Claims 27-42 remain for consideration.

Claims 27, 33-42 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar (USP 5,477,941), and further in view of Clyne K. M. (WO 01/18558) and Gray (US Pub. No.: 2002/0072833).

Independent claim 27 is directed to a liquid composition application system for use in a rail system that involves the use of a GPS for acquiring topological information of the rail system in real time where a remotely accessed processing device receives the topological information and controls the application of the liquid composition. Applicants submit that this combination of elements is neither taught, nor suggested, in view of the cited prior art.

The Office Action states that while Kumar teaches an on-board lubrication system, they fail to disclose a topological device comprising a global position system (GPS) for acquiring topological information of a rail system in real-time; and that the processing device is accessed remotely at a site separate from a train consist in the rail system. It is the position of the Office Action that Clyne discloses methods and an apparatus for measuring navigational parameter of a locomotive using a topological device comprising a global position system (GPS) for acquiring topological information of a rail system in real-time (page 6, line 24-page 7, line 8). Further, the Office Action states that Gray discloses a track database integrity monitor for enhanced railroad safety distributed power, comprising a processing device which is accessed remotely at a site separate from a train consist in the rail system. Still further the Office Action states that Gray

discloses a remote monitoring facility 31 and position determining device 28, paragraph [0021], and also discloses a method for remotely controlling a locomotive, paragraph [0011].

However, Applicants submit that the cited prior art taken alone, or in combination, do not teach the missing element as defined in claim 27, in which using the processing device to control the application of the liquid composition is based upon the topological information received by the device.

Applicants note that Gray is directed to a distribution power system for remotely controlling a locomotive. The system is used to remotely operate and apply distributed power to a locomotive particularly when there is a master locomotive and several slave locomotives that are spaced apart and negotiating different sections of the rail track. The Office Action refers to paragraph [0021] of Gray, which states:

FIG. 1 is an exemplary illustration of a train with several locomotives where the train has a position-determining device. The train 3 includes several locomotives 12 , 13, 14 and non-power cars 17, 18, 19 where all locomotives 12, 13, 14 and cars 17, 18, 19 are connected together by couplers 20. In another embodiment, not shown, the train 3 only includes one locomotive and non-powered cars. As illustrated, the first locomotive 12 is a master locomotive and the other locomotives 13, 14 are slave locomotives. The master locomotive 12 includes a transceiver 29 to send and receive data between the train 3 and a remote monitoring facility 31, and a receiver 33 that collects position-determining data from a Global Positioning System (GPS) 35. This collected data is fed into a position-determining device or sensor 28. In one embodiment, the transceiver and receiver are an integrated unit representing a single communication device. In one embodiment, position-determining data is provided by the remote monitoring facility 31 and is sent to the position-determining device 28.

The Office Action further refers to paragraph [0011] of Gray, which states:

The present invention also discloses a method for remotely controlling a locomotive. The method comprises determining a position of the locomotive with a position-determining device. The method also provides for a pre-stored track database comprising track terrain and contour information, and coupler sensor data. Processing the position of the train, the coupler sensor data and comparing the position with the pre-stored track database to determine a distributed power to apply to the master locomotive and the slave locomotive also occurs in the method. A track database integrity monitor to determine whether the pre-stored track database and the position correlate is applied.

There is no hint or suggestion in paragraph [0021] or paragraph [0011] of Gray that the GPS data collected provides the processing device with topological information that is used by the processing device to control application of a liquid composition. In fact there is no hint or suggestion anywhere in Gray of application of a liquid composition to a rail system. Instead as discussed above, Gray is directed to distribution of power to locomotives in a rail system. The system has a data processing device which receives all external information and position-determining data and calculates current and anticipated distribution power for each locomotive (see for example paragraph [0022]). Because of this, Gray is really teaching away from the combination.

As noted in the Office Action, neither Kumar or Clyne teach of using a processing device to receive topological information and controlling the application of a liquid composition as defined in claim 27.

Applicants submit that claim 27 is therefore inventive over Kumar and further in view of Clyne and Gray. Claims 33-42 are dependent on claim 27, either directly or indirectly, and are

therefore also inventive over the cited references. Withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Claims 28-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar (USP 5,477,941), as modified by Clyne K. M. (WO 01/18558) and Gray (US Pub. No.: 2002/0072833) as applied to claim 27 and further in view of Kast (USP 6,578,669).

Claims 28-31 are all dependent from claim 27. As stated above, a skilled person aware of the teachings of Kumar, Clyne and Gray, would not arrive at the present invention as claimed in independent claim 27 as this combination of references do not provide the missing element as defined in the claim, i.e. the use of a processing device to control the application of the liquid composition based upon the topological information received by the device.

The distribution power system for remotely controlling a locomotive of Gray is not a processing device that receives topological information from the GPS and controls application of the liquid composition based on the topological information received. Kast teaches a lubrication system mounted on a railroad locomotive for applying a lubricant to a rail. There is no teaching within Kast of a GPS system for acquiring topological information of a rail system in real time. Instead Kast discloses a curve sensing device 114 which provides the controller 102 with information as whether locomotive 10 is operating on straight or curved rails. Controller 102 is programmed to utilize information regarding curvature of the rail in the operation of lubrication system. Furthermore, there is no teaching in Kast that the microprocessor is accessed remotely at a site separate from a train consist in the rail system.

Therefore, a combination of Kumar, Clyne, Gray, and Kast, would not result in the present invention, and claims 28-31 are inventive in view of Kumar as modified by Clyne and

Gray, and further in view of Kast. Withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

Claim 40 is rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar (USP 5,477,941), as modified by Clyne K. M. (WO 01/18558) and Gray (US Pub. No: 2002/0072833) as applied to claim 27 and further in view of Gray (USP 6,434,452).

Claim 40 is dependent on claim 27. As argued above, a skilled person would not arrive at the present invention as claimed in independent claim 27 in view of Kumar, Clyne and Gray ('833).

Applicants further submit that Gray ('452) is also directed to a distribution power system for remotely controlling a locomotive. The system is used to remotely operate and apply power disputation to a locomotive particularly when there is a master locomotive and several slave locomotives that are spaced apart and negotiating different sections of the rail track.

As discussed above the distribution power system for remotely controlling a locomotive of Gray is not a processing device that receives topological information from the GPS and controls application of the liquid composition based on the topological information received and the restrictor is remotely controlled from the vehicle cab which is not a site separate from a train consist in the rail system. Thus, Gray ('452) also teaches away from the claimed combination.

Claim 40 is therefore inventive over Kumar as modified by Clyne and Gray ('833) and further in view of Gray ('452) and withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

In view of the foregoing amendments and accompanying remarks, it is submitted that all pending claims are in condition for allowance. A prompt and favorable reconsideration of the rejection and an indication of allowability of all pending claims are earnestly solicited.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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